



# The Reflexivity of Change: The Case of Language Norms

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## **The Reflexivity of Change: The Case of Language Norms**

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### ***Abstract***

In the evolution of speech, the censure of mispronunciations can cause them to abate, and thereby reinforce the prevailing norm. Conversely, widespread and longlasting mispronunciation can amend the norm. In the former case we see the reflexive self-stabilization of language norms; in the latter, the reflexive subversion of the norms. This essay proposes a general model of the reflexive stability and change of norms, and applies it to language norms; elsewhere the

author applies the same analysis to legal norms. The need traditionally filled by a priori norms is filled by slow-changing, "constitutive a posteriori" norms.

## Introduction

Ralph Waldo Emerson said: When you strike at a king, you must kill him. The reason is not that failure to kill is a serious violation of law, for clearly success is even more serious. The reason is that failure is particularly liable to punishment, while success may be a self-legitimizing act that creates a new order. A common sense morality urges us to avoid crime, not just to avoid punishment. When we put it that way, we can hardly disagree. But Emerson is consciously correcting that common sense, reminding it that the very definition of crime may change with a successful violation. The logic by which this could happen will definitely be peculiar. In this essay I would like to explore the peculiar logic that violates common sense by legitimating violation, and that makes new orders possible —not only in law and politics, but in ethics, science, language, and *Weltanschauungen* in general.

It is not hard to find cases in which words were mispronounced by enough people over a sufficiently long time that the accepted, "correct" pronunciation changed to accommodate the mispronunciation. Even if we're not ready to say so for law, ethics, and science, at least we are ready to say so for language that time and numbers validate usage. This is so fundamental to the evolution of language, in fact, that language is the ideal domain in which to explore the logic of violations that become authoritative agents of change.

Three quick examples will give the idea.[\[Note 1\]](#)

1. In the early 14th century English borrowed the Old French word, *naperon*, for a napkin or smock worn while eating or cooking. By the late 15th century English writers had dropped the initial "n", spelling it as we spell it today, *apron*. The change is apparently due entirely to a widespread mistake in parsing the spoken phrases in which the word occurred. The article *a* in front of *naperon* cannot be distinguished in speech from the article *an* in front of *apron*. In an era when spelling was not as fixed as it is today, the ear could divide a word from its article in the "wrong" place, and over time this could become the "right" place.

2. The insect we now call the wasp originally had the /s/ and /p/ reversed in its name; it was called a *waefs*, *waeps*, or *weaps*. The original order of the final consonants held from the word's earliest appearance in English, in the 8th century, to the late 15th century. But in the 16th century the order changed to

its present form, where it remains in all but a few English dialects. The same development occurred in German, from the Old Saxon *uuepsia*, to Old High German *wafsa*, to the Middle High German *wefsa*, *webse*, after which we find the reversal in the modern German *Wespe*, which continues to the present.

3. Before the 14th century or so the English word *thunder* had no /d/, showing more clearly its relationship to the German *Donner*. But in the 14th or so century the /d/ appeared, and has been "correct" ever since.

How are we to explain these developments? Let us provisionally distinguish descriptive from normative accounts of such shifts in the language. A descriptive account will appeal to the physiology of the speech organs, the effect of haste and convenience, prestige and imitation, the phonetic effects of the "substratum" language on borrowed words, and so on. A normative account will focus on the sense in which the newer pronunciations and spellings *violated* older norms. I will appeal to both types of account here, but will start with the second.

In what follows I will discuss some of the theoretical issues surrounding the concept of a language norm and its liability to change, resume with detailed analysis of more examples from the history of English, and then return to theory before concluding. The detail from phonetic history is necessary to prevent the philosophical thesis from floating ungrounded and dogmatic. The reflexivities that I wish to recognize in change appear to empirical investigation only at a certain level of comprehensiveness and detail. But the main thesis is the philosophical one that norms stabilize and subvert themselves by virtue of inherently reflexive or circular processes.

### **Language Norms**

The developments of *apron*, *wasp*, and *thunder* took place before the effects of movable type, cheap rag paper, mass communication, and public education slowed —and virtually fixed— the spelling of English words. If a similar development occurred today, say, the appearance of a /d/ in *runner*, giving us *runder*, we would call it a mispronunciation and a misspelling.[\[Note 2\]](#)

If *runder* ever appeared on the scene, it might be snuffed out if enough teachers, parents, and editors regarded it as a misspelling. But otherwise it could survive to become an accepted alternative. For the 14th century, however, when spelling was much more fluid, it is harder to say that the first appearance of *thunder* was a misspelling.

The primary rule in early English spelling was to follow pronunciation. (This primary rule was qualified by many secondary rules that we need not consider here.) So in deciding whether *thunder* was a misspelling, the chief question would have been whether it represented a mispronunciation.

What is mispronunciation? The very word "mispronunciation" suggests a standard of correctness. While there are standards, there is also a shifting family of acceptable pronunciations. Within that family we recognize and tolerate many different dialects, and even within the same dialect, if we listen carefully, we can observe acceptable variations based on vowel gradation, voicing, aspiration, pitch, and other phonetic variables. Even when we regulate pronunciations and try to enforce uniformity through social pressure and stigma, grade school drills, and standardized spellings, we do not reach all these subtle variations.

What, then, is a mispronunciation as opposed to an acceptable alternative pronunciation? The question must be referred to the language community where the pronunciation is to be tested. A pronunciation may violate the prescribed form written in a dictionary, or modeled by a teacher, and yet be accepted as correct by a significant group of language users. The reverse may also hold when a pronunciation is accepted by the scholars and teachers but not by a particular group of users. Of course, scholars and lay speakers differ among themselves as to correct pronunciation. If we pick one of these groups to be the arbiter of correctness for the others, then we will have no ground on which to justify its claim to exclusivity. If natural languages are conventional, then all contributors to the conventional understanding of the language are "authoritative". But since conventions vary from time to time and place to place, we must localize the authority of these speakers to those groups for which their contribution actually becomes conventional.

So if a pronunciation meets the phonetic conventions of group A but not of group B, I will say that it is acceptable or correct to group A but not to group B. While sound as far as it goes, this simple formulation hides an important distinction. The conventions of these language groups are of at least two kinds: the historical convergence of their usage, and their beliefs about what usage is correct — in short, their practice and their theory. There are accordingly two kinds of mispronunciation. A theoretical violation departs from the group's generally held beliefs about correct usage, whether or not it departs from the group's practice. A practical violation departs from actual convergent usage.

A group may accept its own theoretical violations in practice. For example, many people who will insist that they "know better" will accept *gonna* for *going to* phonetically, *who* for *whom* morphologically, and *hopefully* for *one hopes* semantically — whether these violations are committed by themselves or others. So acceptance cannot be a test of theoretical conformity, but only of practical conformity. Acceptance or acceptability, however, has a good empirical test. A pronunciation, spelling, or other case of usage is unacceptable in a particular language community if it encounters criticism or correction there, or if it fails to bring recognition and understanding. I will use this test to show that one generation's theoretical violations may be accepted in practice, and that this is often one step toward their becoming accepted even in theory by the next generation.

To use this notion of acceptability we need not have a precise way to individuate language communities. We may even recognize that they are not precisely individuated, but overlap each other, admit of innumerable borderline members, and may take very different shapes depending on what case of usage we are investigating.

### **"Norms" from "Facts"**

Above all, we should not simplify the complexity and concreteness of language by supposing that there are norms of correct usage and pronunciation independent of the rich, daily practices of a community of speakers and writers. Even those norms with little basis beyond the say-so of scholars and teachers (rules e.g. of "nomic spelling") are concrete in this sense; they reflect older practice. They simply refuse to bend to the evolution of the language and in time become merely theoretical. Clearly the living norms of a language community consist of a convergence of social practices — how people pronounce and spell, how they teach their language to children, how much they read, what they read, what range of usage they tolerate before they criticize, correct, or query, how playful they are with their language, how they interact with different language groups, and so on.

It is by appeal to this convergence of complex social practices that people criticize and correct the usage of others, such as children and foreigners. And it is by virtue of these conventions of practice that people understand each other when they speak "convergently" and fail to understand each other when they do not. This convergence may never have been articulated in grammar books and dictionaries, or it may have been artificially tidied up or misrepresented in those accounts.

These conventions may be taken descriptively as convergences of behavior. To do so removes any odor of transcendence, abstraction, metaphysics, and mystery. But they may just as fruitfully be taken normatively as standards of correct usage. Take the contemporary spelling and pronunciation of *thunder* as an example. The inclusion of the "d" in the spelling and of the /d/ in the pronunciation are matters of widespread convergence. People *do* it this way nowadays. If someone spelled the word without the "d" we might fail to understand; but if the context made the meaning clear, we would criticize their spelling. The convergence of behavior is a ground for corrective action; it has been validated by time and numbers; it has become a norm.

Wittgenstein is very acute in *On Certainty* on the way in which empirical propositions can become *rules* for judging other empirical propositions. Describing just how they make the transition to rule-like, quasi-transcendental standing is one of the trickiest parts of articulating this point of view; I want to begin this articulation by showing how long time and widespread usage can validate usage and make a *rule* congeal out of historical practice.[\[Note 3\]](#)

In this sense language norms are both the cause and the effect of the descriptive convergence of behavior. By arising from the convergence, they are its effects, even its reflection. By justifying corrective action, they legitimate and broaden that convergence, and cause it to persist.

Ronald Dworkin introduces a distinction for moral norms that can help us here. If a community agrees in asserting a particular moral rule, then it might have a *conventional* or a merely *concurrent* morality. It is conventional if the community agreement is itself a ground for asserting the rule; it is merely concurrent otherwise.[\[Note 4\]](#)

If we criticize the misspeller of *thunder* or *runner*, it is usually because he or she has not spelled the word in the convergent way. In this sense, our agreement on spelling is conventional, not merely concurrent. Our agreement is used as a ground for asserting the normative correctness of that upon which we agree. Once the reciprocal dependence of norm and fact has taken root, we may say that we agree on spellings because they are correct *and* that they are correct because we agree on them.

The convergence of behavior is not a mere *datum* of which we are reminded when we hear a divergent pronunciation; it is a *standard* by which we judge the pronunciation to be erroneous. A fact has become a rule. Qua fact, it is logically posterior to norms of judgment; qua rule, it is logically prior to facts.

It is an anomalous entity in which a peculiar kind of logical priority has congealed from the historical contingency of convergence.

This acquired logical priority is not permanent; it arose in time and will pass away. It is much like what Kant called the *comparative a priori* by which we know that a house will fall down if we undermine its foundation. This knowledge is not independent of all experience; but it is independent of the future experience that it will help us judge.[\[Note 5\]](#)

It is the kind of logical priority that Gerard Radnitzky describes as *a priori* for the individual but *a posteriori* for the species. It is prior to experience in the same way as Kenneth Burke's "representative anecdote", Stephen Pepper's "world hypothesis", and Thomas Kuhn's "paradigm". It arises from past experience but is prior to the future experience that we must interpret. It is entirely a product of history, but in time it becomes constitutive of understanding and practice before it is superseded by another. It has the standing of the myths that buffer our experience of the world and filter all our interpretations. It structures what we can see and what we can say about our experience. In that sense it is constitutive; yet it is historically conditioned and will pass away.[\[Note 6\]](#)

In short, this kind of logical priority congealed from logical posteriority is *preposterous* in the original, playful etymological sense: what is *pre-* is *post-* and what is *post-* is *pre-*. (1) It is prior in the sense that the constitutive *a posteriori*, while not at all "valid independently of experience", is "more than usually immune to the effects of experience". It has this quasi-transcendental standing because it is partly constitutive of experience or because it is a norm, governing what we accept and reject as proper (real, true) in experience. (2) But on the other hand, it is posterior in that it is not entirely or transcendently immune to effects of experience; it arises from history and evolves.

The convergence of usage in language creates expectations as to how people will use the language. These expectations are not merely probabilistic; they are also constitutive. Qua fact of history, the convergence creates probabilistic expectations that are overwhelmingly confirmed by experience. For language conventions are generally followed and, when they change, it is never overnight. But qua norm of correct usage, convergent usage creates constitutive expectations. If the usage we hear is not what we expect, we criticize it for divergence.

### **The Constitutive *A Posteriori***



Kant's concept of a synthetic *a priori* judgment was a contradiction in terms for the philosophical language he inherited through Hume. He argued, however, that it was merely surprising, unexplored, and subtle, not monstrous — much like incommensurable quantities or instantaneous velocities. Similarly, in the language inherited from Kant, the concept of a constitutive *a posteriori* expectation is a contradiction in terms. But I would like to argue that it is merely unsounded, not unsound. It is not even new. But it is our best hope for explaining norms that function as norms, that is, constitutively, that structure not only what we approve but what we understand and how we act, and whose normative priority to experience arises ("congeals") from the flux of history and passes away again.[\[Note 7\]](#)

In what follows I will call norms that are products and producers of conventional usage in this sense *historical*, or *immanent*, or *constitutive a posteriori*. Norms that are supposed to be historically unconditioned, or eternally valid, or logically prior to all the cases they might judge, or immune to change arising from experience and violation, I will call *transcendental*. Kant's categories are transcendental. For most people the norms of correct arithmetical computation are transcendental. Again, here I am speaking primarily about norms of correct usage in language — even more particularly, about norms of spelling, pronunciation, and meaning — if only because they are an excellent test case. Most language norms are never thought to be transcendental; whether they are constitutive *a posteriori* remains to be argued. Ultimately I hope to extend this analysis to all historically mutable or contingent norms.

### **"Facts" from "Norms"**

When we say that language conventions are both norm and fact, and that the norm is both cause and effect of the fact, it follows immediately that facts are not simple. While I am focusing on the other half of the thesis here, I want to make this half explicit. The facts of language we are talking about are actual pronunciations, spellings, meanings, and sentence structures. These would not be what they are if they had not been channeled in that direction by the normative training of teachers, parents, writers, editors, and peers. The constitutive expectations arising from the "fact" of linguistic convergence literally constitute the subsequent history of the language. The facts of usage inherited by one generation are the rules of correctness that determine the facts of usage in the next.

### **Mutability of Norms**

Language norms do change. If they didn't, we wouldn't agree that the correct spelling of *thunder* now has a "d"; on the contrary, we'd have to agree that we've been misspelling the word since the 14th century, and that before that the norm (if not the word) has an infinite history.

If some Chomskyian deep structure does not change — a question that I do not reach — at least the norms I'm discussing do change: norms of spelling, pronunciation, and semantics. This historical account of norms is already in a good position to explain their change; for their mutability is a direct consequence of their embeddedness in historical behavior. Insofar as norms partake of logical priority that has not congealed from logical posteriority, they are transcendental; their change is either precluded or mysterious.

### **Self-Stabilization**

One good reason to speak the way others do is precisely because others speak that way. In Dworkin's terms, language usage is strongly conventional, not merely concurrent. We don't just agree on how it is to be done, but we cite our agreement as a reason for doing it that way.

One consequence of this is that language conventions tend to stabilize themselves. If what they already are is a good reason for respecting and promoting them, then they inherently resist change by a reflexive process. Movements toward divergence are brought back into line, and the convergent usage is taught to the next generation as the standard of correctness. Let us call this process *self-stabilization*.[\[Note 8\]](#)

All conventional norms in Dworkin's sense are self-stabilizing in the same way. Once they arise, their existence is both a reason and a cause for them to continue. In this sense I am asserting not only the reflexivity of change, but the reflexivity of stasis and stability.

Law is self-stabilizing in this way. For apart from the punishments it provides for offenders, and the values it protects, one reason to obey the law is that it is already the law. Science is self-stabilizing as well. For apart from the evidence by which it claims to stand or fall, one reason to believe it is that it is already accepted by scientists as science. As Kuhn points out, children are taught science by authority, not by evidence. Even if law and science ought to lack this kind of self-stabilization — if they ought to be followed only when they are just and justified, not because they are conventional — it is part of the ideology that accompanies their institutionalization that they will have it. It is a

sociological shadow that they cannot escape, for their historical forms have constitutively shaped our notions of how to act and what to believe.

The self-stabilization of language gives it the stability of a gyroscope, whose constant rotary motion causes it to preserve the plane of its rotation. Language stabilizes itself by a feedback loop that rewards those who conform to current conventions with understanding and communication, and punishes those who depart with misunderstanding, challenge, faltering, and criticism. This stability gives language the robustness of a gyroscope as well. If buffeted, it will wobble and recover, perhaps in a new place.

### **Amendment Through Violation**

The change of historical or immanent norms can be brought about by violations. I do not say that all normative change is brought about by violations, merely that some is; but that is enough to cause us to rethink the logic of normative change.

Self-stabilization is not the only influence on the stability of a language. Borrowing and coining new words to cope with changing circumstances, playfulness, imitation, laziness, ignorance, and many other forces of change are continually at work. This includes all shades of violation and all directions of departure. If in speech, for example, the convergent pronunciation of a word begins to drift to a nearby pronunciation for any reason, including widespread mistake, then the self-stabilizing process will be carried with it, and the new pronunciation will become normative, constitutive expectations will attach to the new usage, and departures from the new norm will be subject to criticism and correction.

It will be important later to note that if drift takes the gyroscopic process of self-stabilization with it, then the drift is guaranteed to be slow. More rapid movement even in the direction of the drift will be restrained by the self-stabilization process.

If we regard the convergent behavior of a language community descriptively, then "violation" is merely divergent usage. If we regard it normatively, then divergent usage is "violation". The descriptive and normative perspectives map each other perfectly. This follows from the anomalous ontology of immanent norms in which the factual convergence of social practice gives rise to normative authorization and confirmation of that historical practice. We can go back and forth between them by a kind of gestalt shift. Descriptively, it is perfectly coherent to say that a system of harmonious parts will change its

internal state and reach a new equilibrium when some of the parts are buffeted. But normatively translated, this yields the paradoxical-sounding process of "amendment through violation". The correctness of the translation is clear only if we understand how the "is" of language usage becomes an "ought" *ex proprio vigore* or by its own strength.

The descriptive version of the process will help make the normative version clear. The normative version will help show what is at stake for the logic of change in conceiving it this way.

A metaphor may also help. The current conventions of a language are like a riverbed that guides the water that flows through it. The individual cases of usage in the history of that language community are like drops of water in the river that very slowly change the shape of the riverbed.

The metaphor works to a good level of detail and can be elaborated. The countless drops of water in a river each in a small way have an effect on the shape of the riverbed. If they do not directly erode the bank, they contribute their volume, which determines how high up the bank the river reaches, and their mass, which determines how heavily the water presses on the bank. Each drop taken alone, or even taken with any million other drops, is relatively ineffectual over the shape of the channel, and so to all appearances is merely channeled. So while the moving water changes the bed, the bed guides the water. The shape of the bed is both the cause and the effect of the path of the water. But we never have a causal standoff in which each waits for the other to take effect first. The bed is always already there to guide the water, even though it was not always that shape; it is constitutive *a posteriori*.[\[Note 9\]](#)

The chief limitation of this metaphor is that water flows through its bed according to mechanical laws, whereas speech is inseparable from the intentionality of speakers. But from an historical standpoint, the large scale result of the intentionalities of many speakers has the character or "logic" of the riverbed, much as the purchasing decisions of consumers are subject to reliable generalizations despite their origin in subjective, often subconscious processes. Needless to say, the thesis that language norms are constitutive *a posteriori* applies only to the historical "vector" of the speech of many speakers, not to speech at any more local or intentional level. In explicating just how constitutive *a posteriori* norms stabilize and subvert themselves, however, we must make appeal to actions and attitudes that ultimately refer to the intentionality of individual speakers, such as complying with convergent usage

because it is a community standard, criticizing departures of certain kinds as violations, accepting other departures as playful, prestigious, useful and so on.

If a norm were not historically conditioned, but entirely transcendental, it would remain logically prior to its violations despite their abundance, longevity, and acceptance. To violate such a norm very often would be like striking the king very often without killing him. It does nothing to legitimate the violations; the norm survives to judge the violations. This immunity to change from experience, or from the drifting conventions actually in use in a language community, is in fact the primary argument against the transcendence of language norms.

Dictionaries and grammars frequently distort norms that are historically conditioned by artificially abstracting them from history and stating them as if they were immune to change from their violations. Even though this falsifies the phenomenon, it may strengthen the norms by enjoining the convergent behavior they represent. Sometimes it is done from ignorance of the immanence and historical contingency of language norms, but sometimes it is done from a simple normative desire to preserve convergence in the face of slovenly standards, extensive borrowing, rapid material progress, or other causes of change. In the preface to his dictionary, Samuel Johnson said, almost with a sigh, that if he could not give the English of his day immortality, by fixing its spelling and usage in an authoritative book, at least he could give it longevity. He was right.

Even norms that are concededly historical and immanent may be viewed *synchronically* or from an instant of time, rather than *diachronically* or across time. But if we consider norms only synchronically and forget the diachronic perspective, we will tend to forget both their mutability in general and in particular their vulnerability to experience, usage, and violation. A synchronic perspective can mislead us into thinking that language is static. It is much more an instantaneous velocity or derivative than an insight into immutability —just as a snapshot can show us everything visible about its subject except its motion. The synchronic is a valuable perspective on language norms if it is complemented by the diachronic; otherwise it is the first step toward their dogmatic immobilization and the conclusion that they are really transcendental.

### **Preposterous Norms**

Undoubtedly, to many people norms look more like norms when they are artificially abstracted in this sense, if not actually transcendental; or to put it

from the other end, a norm that does not survive its own violation does not look like a real norm. Abstraction and transcendence enable norms to rebuff changes arising from the experience they are intended to structure, judge, or explain, to preserve their logical priority come what may, and to declare violations to be violations without any qualification or ambiguity. When scientific theories and basic beliefs are artificially abstracted from their history and endowed with a certain hallowed untouchability, immunity to criticism, and logical priority to experience, we say they are protected by "tenacity" (Peirce) or "logical rudeness" (Suber), subject to "dogmatization" (Albert), have "diminished empirical content" (Feyerabend), have become "paradigmatic" (Kuhn), "quasi-transcendental" (Habermas) or even what English idiom calls "invincible ignorance". They have made Wittgenstein's transition from empirical proposition to rule.[\[Note 10\]](#)

Morris Raphael Cohen distinguishes two kinds of unproved yet indispensable presupposition: one kind can be disproved by experience and the other cannot. The first is an hypothesis; the second has acquired a special *a priori* character. It is not necessarily true, just presupposed and immune to criticism. It is not presupposed *because* it is true, but in order to prevent its testing and refutation. It has congealed into a norm that rises above experience to constitute and judge it. The presupposition may have started as an hypothesis, but it has become a "resolution" or "stipulation".[\[Note 11\]](#)

In the analysis of science, the congealing of empirical propositions into norms, dogmas, myths, rules of interpretation, or constitutive frameworks may be regretted or simply observed with a clinical, historical detachment. But in the analysis of language the same congealing cannot be regretted. It can be described clinically, of course, but we must also prize it as the mechanism that makes language conventions conventional and, hence, that makes language possible. We can regret this preposterousness only for science where we may want to minimize the transition from facts to norms and to preserve the empirical character of the theories we use as normative standards of procedure and correctness.[\[Note 12\]](#)

### **Reflexive and Irreflexive Hierarchies**

The transcendental model of language norms suggests a straightforward hierarchy in which prior norms govern posterior usage. If norms vary in their relative priorities, then higher norms govern lower norms. As in a theory of types, there are no cases of self-application, and no loops in which lower levels affect higher levels. Call this an *irreflexive hierarchy*. A *reflexive hierarchy*, by

contrast, is an array of levels in which there is an occasional loop, and lower levels do affect higher levels. We will want our model to be a reflexive hierarchy rather than a heterarchy or anarchy because there is a level distinction that is not abolished by the reflexivity. Norms really are superior, or logically prior, to the usage they govern; it just happens that that usage can create and alter those norms over long periods of time.

The model of norms I offer here is a reflexive hierarchy. If we are to explain how violations —in sufficient numbers, over sufficient time— can amend the norms they violate, then we are driven to use reflexive hierarchies to understand the relations between those norms and violations. In this sense I offer a reflexive logic of change to explain the change of norms.[\[Note 13\]](#)

Note that I cannot entirely exclude the possible existence of transcendent norms. Locke concluded his argument against innate ideas by admitting the limitation of every negative argument; at the end he says that people who have innate ideas have reason to enjoy them. I do not argue that transcendent norms cannot exist so much as that their role in theories of language growth and usage can be played just as well by stable, slow-changing norms that are genuinely constitutive, and that the latter are much easier to explain and less mysterious than transcendent norms.

### **Noticed and Unnoticed Changes**

The transition from *a naperon* to *an apron* was almost certainly an error when it first occurred, but became acceptable because it was an error that was commonly made and, in spoken English, so undetectable that it triggered no criticism or correction.

It matters whether a change is easily noticed. Some departures from current standards are large enough to notice, even if they are too small to criticize. But others will be too small even to notice, like the effect of a given drop of the Mississippi River on the shape of Illinois. If a new pronunciation is noticeable, it is likely to be considered a violation and to call forth criticism and correction unless it has a special sanction such as play, prestige, or convenience. If it is not noticeable, it is likely to be accepted and to have its minute effect on the language without having to overcome a barrier of resistance and disapproval. In the first category we find changes like the reversal of the consonants in *wasps* and the added /d/ in *thunder*. In the second category we find cases of misdivision like those that gave us *apron*. In the series of examples to follow, I will focus primarily on phonetic changes.



Technical violations that are accepted in practice tend not to be noticed. This is only in part because the norm may be shifting in their favor; it is also in part the result of an automatic filtering process that puts the countless phonemes of actual pronunciation into a small number of categories on which the information of speech is carried. Hence a range of acceptable pronunciations will often be heard as uniform. To notice the differences that are phonetically present requires a special effort, one that we do not make when we are listening for meaning, not for sound.

One might think that adding a new consonant sound to a word (epenthesis) would always be noticed and provoke criticism and correction. But it is not clear that this happened with the added /d/ in *inthunder*, or that it happened in similar circumstances when a /b/ was interpolated into *fumble*, *humble*, and *grumble*, each of which originally lacked it. These are cases of merely technical violation, accepted most likely because the new spellings matched already accepted pronunciations.

When the same insertion of a phoneme occurs with a vowel (anaptyxis), it is even less likely to be noticed or criticized. Many English speakers pronounce *athlete*, *film*, and *arm* as if they were *athalete*, *fillum*, and *arrum*. These pronunciations are on the borderline of acceptability. If they were more often noticed, or if they were spelled as they are pronounced, they would be criticized. Because they are barely noticed, they are becoming acceptable.

The same is true of the more radical shift of a vowel into a consonant (consonantization). We convert *poetic* to *pwetic*, *cooperate* to *cwoperate*, and *radio* to *radyo* or even *radjo* in order to avoid the inconvenience of pronouncing two distinct vowels in a row. These forms live an underground life of acceptability: tolerated in rapid speech but not permitted to erupt into spelling. [\[Note 14\]](#)

Consonant and vowel additions of this kind are cases of a very general force of phonetic change called dissimilation. When too many similar sounds occur in succession, we ease the work of the mouth and promote communication by interposing new sounds to break up the difficult clusters or by altering one of the repeated sounds. They have no etymological justification. They are technical mistakes by the standard of prior norms, but they greatly serve phonetic convenience; so they survive even when they can't always be legitimated by matching changes in spelling.

Dissimilation can lead us to change one consonant to another one in order to avoid repeating the same sound too often. In this way, Latin *turtur* came into



English as *turtle*, and the Latin *purpura* and Middle English *purpre* became the modern English *purple*. The two /r/'s in ME *gramer* do survive in the modern English *grammar* but they have also given rise to the Scottish dialect word *glamour*.[\[Note 15\]](#)

Sometimes a repeated consonant will simply be dropped, as when *February* becomes *Febuary*, and even *Febray*. The transformation of Latin *marmor* into the English *marble* shows many of these tendencies. The second /r/ dissimilated into /l/ to prevent repetition; the second /m/ was dropped by dissimilation for the same reason, and replaced by a dissimilated /b/.[\[Note 16\]](#)

In general unvoiced stops take more energy to pronounce than voiced ones. Consequently, in the name of economy of effort, unvoiced stops like the /t/ in *city*, *butter*, and *pretty* become voiced over time, *cidy*, *budder*, *preddy*.

Voicing and other phonetic variables are affected as much by our "substratum" language as by the physiology of the mouth. The phonemes we are accustomed to speak and hear in our own language define and limit those we will speak and even hear in other languages. In general speakers of English from the Indian subcontinent will voice unvoiced consonants, pronouncing *take up a cause* as *daeg ub a gauze*. Native German speakers will unvoice voiced consonants, pronouncing *the hand has been mended* as *the hant hass peen mentet*.

Sounds and syllables may be dropped without stirring much notice or criticism, especially if there is some phonetic justification for it. For example, dissimilation will lead us to drop syllables that repeat nearby sounds (haplology). Americans typically reduce *probably* to *prob'ly*, and Britons reduce *temporary* to *tempo'ry* or even to *temp'ry*.

Slightly different from haplology is the loss of unstressed vowels, hence of syllables (syncopation). *Laboratory* reduces to *lab'ratory* in the United States, but not in Britain where the accent is on the second syllable. For this reason, Britons are much more likely to drop the fourth syllable, *laborat'ry*.

The more day-to-day cases of this phenomenon (syncopation) show how little it causes criticism or correction. Making two-syllable verbs into participles ought to produce three-syllable words; but we often syncopate the root if its last syllable is not stressed and its final consonant is a continuant. *Gamble* and *suckle* become *gambling* and *suckling* — two-syllable words — not *gambeling* and *suckeling*. One-syllable words ending in

continuants may lose their only vowel in fast speech and be reduced to their continuants alone. *And*, *in*, and *than* each becomes a mere /n/ in rapid conversation — *this 'n that*, *pig 'n a poke*, *better 'n ever*. The context alone tells us which is meant.

The switch of the /s/ and /p/ in *wasp* is not a case of dissimilation but of metathesis. In metathesis we exchange two phonemes, or change the position of one phoneme, without altering them in other ways. Most are easily noticed and criticized as mispronunciation, e.g. the common switch of /s/ and /k/ in *ask*, *escape*, and *asterisk* into *aks*, *ekscape*, and *asteriks*. But sometimes the metathesized pronunciation is accepted, if not as the correct pronunciation, as with *wasp*, then as a legitimate new word. The Medieval Latin *taxa* gave modern English not only *tax* but also *task* by metathesis. [\[Note 17\]](#)

If Newton's laws of motion applied to phonetics, we would say that for every action of phonetic change there is an equal and opposite reaction. The force complementary to dissimilation is called assimilation. When we assimilate we alter phonemes in order to increase the likeness of nearby sounds. For example, the common inflection for the past tense in English, *-ed*, was originally voiced, as the spelling shows. But when it follows a root whose last consonant is unvoiced, the mouth wants to voice them both or unvoice them both. Inflections and suffixes usually lose this competition. Hence, the final /d/ is unvoiced in words like *faced* with unvoiced final consonants, and voiced in words like *fazed* whose final consonants are voiced. This kind of assimilation is even allowed to show up in spelling in rare cases, e.g. when we inflect *sleep*, *leap*, and *creep* to *slept*, *leapt*, and *crept*.

Try this. The pluralizing /s/ is unvoiced in words like *cats*, voiced in words like *dogs*, by assimilation to the final consonant of the root. The only way to make the /s/ unvoiced is to assimilate the root to the affix: *dogs* becomes *doks*. We cannot pronounce a voiced /g/ followed by an unvoiced /s/. This shows the force of assimilation and sheds light on the character of the "mistakes" and "violations" we are talking about. They are natural consequences of the physiology of the mouth and pressure to make our sounds conform to the constitutive *a posteriori* patterns that prevail in our language group. If voicing the pluralizing /s/ were noticed and criticized under local conventions, we would have to find a different solution to the plural of *dog*. But in fact, the "mistake" has become acceptable. Mistakes of this kind do not involve deficiencies of understanding or care. The evolution of a language is not the history of blunders and foibles; it has its causes (in part) in the demands and the efficiencies of the mouth.

The physiology and economy of assimilation are stronger than the preference for roots over affixes. So despite what happens with the pluralizing /s/ and the /d/ in the past tense ending, the voiced /b/'s in *describe* and *prescribe* are assimilated to their unvoiced endings in *description* and *prescription* even though the voicing is part of the root. If the root were to prevail we would have to change *description* to *describzhun*.

A reflexive example is the word *assimilation* itself, which is an example of assimilation. Latin *similis* combined with the prefix *ad-* (towards) created a word in which the voiced /d/ of the prefix conflicted with the unvoiced /s/ of the root. *Adsimilation* became *assimilation* within Latin itself, before English even existed. We see this with many other prefixes. For example, the Latin and now English prefix for negation, *in-*, as in *independent*, assimilates easily to match the phonetic characteristics of the roots to which it attaches, e.g. becoming *il-* in *illegal*, *im-* in *impossible*, and *ir-* in *irreflexive*.

Tongue twisters show the power of assimilation and dissimilation very clearly. Tongue twisters composed of many identical sounds (e.g. /b/ in "rubber baby-buggy bumper") show the effect of dissimilation; our trouble pronouncing them is the result of our natural, involuntary tendency to increase the variety of sounds through dissimilation. Tongue twisters composed of many combinations of sounds difficult to pronounce together (e.g. /s/, /z/, and /sh/ in "Sally sells seashells by the seashore") demonstrate the effect of assimilation; our trouble with them is the natural result of our tendency to decrease the variety of sounds through assimilation.

Sometimes for phonetic convenience consonants are dropped and not just changed. If we can be understood even when we drop consonants, or if it is much easier on the mouth to drop them, we will often drop them. This is how we lost the /t/ in *castle* and *hasten*, the /l/ in *calf* and *half*, *talk* and *walk*, and why we are close to losing it in *palm* and *calm*. This is how English speakers lost the /k/ that German speakers retain in *knee* and *knob* (German *Knie*, *Knauf*). And it is part of the reason we lost the /gh/ that Germans retain in *light* and *night* (German *Licht*, *Nacht*). In all these cases, what is lost is a sound in pronunciation; the accepted spelling continues to reflect the older pronunciation.

Most of the phonetic shifts that encounter no resistance are indiscernible or undiscerned rather than discerned and forgiven. Sometimes they are not noticed because we don't listen sufficiently closely, sometimes because we never hear the "correct" pronunciation as a contrast, and sometimes because it is minute

and "assimilated" by the ear and mind in the process of understanding. While most consonant changes are noticed even if they are forgiven, it is fair to say that most vowel changes are not noticed.

*Breakfast* was formerly a two-word phrase. When it collapsed to a single word, *break* was degraded from a word with its own emphasis to the unaccented syllable in a compound. Because it received no stress, its vowel shifted from long to short, *break* to *breakfast*. Even if the phrase "break fast" is transparent for us in the word *breakfast*, the memory of the long vowel causes us no trouble; we still tend not to notice the vowel shift. If we can recognize the new sound as a variation on the theme of the old one, then it will not strike us as a departure. [\[Note 18\]](#)

This shift is not only the result of preceding an accented syllable. It may also arise when the vowel precedes a difficult consonant cluster. For example, the *wis* in *wisdom* was formerly pronounced with a long vowel, as in *wise*. Despite the accent on the first syllable, the vowel became short in the 17th century. If vowels preceding difficult consonant clusters shorten, vowels preceding easy consonants tend to lengthen. The /i/ in *blind*, *wild*, and *climb* was originally short, and still is short in the cognate German words, *blind*, *wild*, and *klimmen*. In the English words it has lengthened.

As *breakfast* showed, unstressed syllables often undergo a shortening of their vowel; conversely, stressed syllables tend to preserve their vowel quantity or to lengthen. The articles *a* and *the* have long or short vowels depending on whether they are stressed in the sentences where they occur. The long vowels in *able* and *reform* are shortened over time in *ability* and *reformation*. The shift in *reformation* is taking longer because the first two syllables occasionally take equal stress. For the same reason, the long vowel in *fate* is sometimes long, *fatality*, and sometimes short, *fuhtality*; here the loss of stress is having its effect more or less before our eyes.

Assimilation can be seen at work in the evolution of *grampa* as a clipped form of *grandfather*. After the semantic substitution of *pa* for *father*, the dental /n/ and /d/ conflict with the labial /p/ in *grandpa*. The first assimilation removes the /d/, yielding *granpa*. Then the /n/ alters to /m/ by assimilation to the /p/, giving us *grampa*. Similarly, the medial /n/ in *government* is usually assimilated unnoticed to its neighboring /m/, giving us *govermmment*. From here, other forces take over and, when we are hurried, we drop the /r/, *goveemment*, then the middle syllable, *guvment*, and remove aspiration from the /v/, *gubment*. Again, these "mistakes" are so acceptable that they are barely noticed in ordinary

speech; yet they are so clearly contrary to current conventions that they cannot be spelled without suggesting a subliterate dialect or the speech of children.

Finally, I'd like to mention three causes of word change that are not phonetic. I bring them in because they show very clearly the role of error and violation in the process of linguistic change.

1. Many morphological changes are brought about by analogy. Children who hear the past tense formed for most verbs by the ending, *-ed*, will apply it mistakenly to all verbs, creating *goed*, *knowed*, and *hitted* for *went*, *knew*, and *hit*. But when adults make similar mistakes — in sufficiently large numbers over a sufficiently long time — their violations amend the norm. The verbs *to snow* and *to swell* formerly had irregular (strong) past forms, *snew* and *swoll*, but analogy to regular verbs has created *snowed* and *swelled*. When the language has enough "exceptional" past forms of the same kind, they may exert an analogical force of their own. *To strive* was formerly inflected in the most common way, *strived*, but analogy to cases like *dive*, *dove* and *drive*, *drove* has created *stroved*. The verb *to dive* is undergoing this process now; its original past form, *dived*, is being replaced by *dove*; currently both are accepted.

2. Whole syllables can be lost in the very interesting process of backformation. If we think *automation* derives from a verb, we guess that the verb must be *automate*, although in this case the noun came first; the verb is an invention to fit an erroneous etymological theory. The same process explains the invention of *beg* from *beggar*, *peddle* from *peddler*, and *typeset* from *typesetter*. When these errors are accepted as good words, it is through the plausibility of the error. If we don't yet quite accept *enthuse* as the verb underlying *enthusiasm*, it is because that is a less ingratiating error than, say, *orient* as the verb underlying *orientation*, or *reminisce* as underlying *reminiscence*. The error is acceptable, when it is acceptable, because it tells its own story and persuades us.

3. Erroneous etymological theories may over time affect a word's spelling and pronunciation. The Old English *utemest* became the modern English *utmost* on the false but plausible theory that the word *most* must be the superlative in the word. But in fact *utemest* contains two other superlative endings, one Latin, *-imes*, and one Greek, *-istos*. English *sovereign* came ultimately from Latin *superanus* through Old French *souverain*. The "g" in the English word arose from the false theory that the word is built on the root *reign*.

Similarly, *shamefaced* has nothing to do with *face* (original *shamefast*), *cutlass* with *cut* (original Latin *cultellus*, 'knife'),

or *crawfish* with *fish* (original Old English *crevis*, 'crab'). Each evolved to its present form on the theory that these associations were part of its origin.

This process is called folk etymology when it is based on the mistakes of ordinary folk. But we know many cases where scholars introduced some new spelling based on false theories. English *rhyme* ought to be, and was, *rime*; but on the theory that it derived from Greek *rhythmos*, instead of Anglo-Saxon *rim*, the spelling was deliberately changed.

### **Grounds of Phonetic Change**

I have distinguished normative from descriptive accounts of these changes. A full descriptive explanation would not merely observe that assimilation has occurred, for example, but would advance a level to explain why assimilation occurs. Clearly the rise of phonetics as a science gave promise for the first time that etymology could become a science. But in general etymology is good at the first level explanations, and still weak at the second. It is important for us to spend a minute at the second level if only to shed light on normative explanations, or the sense in which phonetic changes are violations of prevailing norms.

One of the best summaries of the prominent theories of the causes of phonetic change is by Carl Darling Buck. Before offering the theories themselves he issues a warning.[\[Note 19\]](#)

Why does a sound change at all and why does it change in one direction rather than in another? As is so often the case in other branches of science, what seems to the layman the simplest question, one to which a prompt and precise answer is expected, may be the most difficult. There is in fact no generally accepted single cause of phonetic change.

The three chief theories from the history of linguistics ascribe the patterns of phonetic change to (1) geography, (2) ethnography, and (3) economy of effort.[\[Note 20\]](#)

The geographical theory attributes phonetic changes to the influence of climate and terrain. The theory has very little scientific basis, since changes thought to be caused by cold climates or mountainous country have also occurred in the opposition conditions. Moreover, it cannot explain changes that occur in one place but not in another place with the same climate and terrain.

The ethnographic theory is often called the "substratum" theory, since it attributes a phonetic substratum to the people of a language group that is never completely replaced by conquest, natural development, or extensive borrowing. For example, many of the changes undergone by Latin among the Gauls have been attributed to the Celtic speech habits native to the Gauls. Or, there must be some property of indigenous phonetic systems that led Germanic tribes to take up the Latin *pater* as *Vater*, while the English took it up as *father*.

While there is undoubtedly some influence of prior speech habits on subsequently adopted words or languages, the chief problem with the theory is that it is often too vague and general to explain a given change. When it is made sufficiently particular to explain cases, then it is appealing to voicing, for example, to explain a word history, not to a linguistic substratum to explain voicing. Its vagueness is especially debilitating when the theory appeals to 'national character' as an influence on change.

Then there is the theory of ease or economy of effort. If all three theories have a kernel of truth, at least this theory's kernel is open to some empirical confirmation. Cases of assimilation and dissimilation, for example, are often plainly recourses taken by speakers for the sake of ease of pronunciation, the line of least resistance. By assimilation we often drop or change consonantal obstacles to fluidity in speech, just as by dissimilation we insert the stops or vowels that neighboring phonemes seem to require of the human mouth. We have just examined many examples of this process. While this theory can point to laziness, haste, and lack of care, most often it points to the convenience and efficiency of effort in the mechanics of speech.

The 'line of least resistance' theory, however, cannot be the whole story. Buck offers two telling criticisms. If it is true that Latin *octo* became Italian *otto* by assimilation, because /ct/ was difficult to pronounce, it is nevertheless also true that the Romans pronounced the /ct/ for hundreds of years. In other languages the same phonemic combination has remained unaltered, unassimilated, for thousands of years, as in the case of Ancient Greek *octo* and Modern Greek *ochto*. To say that a sound combination was dropped or assimilated on account of its difficulty must explain cases like this in which the same combination is spoken by some language group for a long time. As we've seen, English speakers dropped the /k/ in *knee* and *knob* but German speakers have not. A purely physiological theory must, at least, be supplemented by an appeal to the effects of a substratum language.



Second, Buck notes, some phonetic changes have come full circle over time. These cases demand some other explanation. For example, the /t/ in German *Vater* has undergone a development from /t/ to unvoiced aspirated /th/ to voiced aspirated /th/ to /d/ and has finally returned to /t/.[\[Note 21\]](#)

Because both assimilation and dissimilation require some appeal to the 'line of least resistance' theory, we are better off modifying that theory than rejecting it. As an alternative to a simple theory of economy, efficiency, or laziness, I propose that assimilation arises from a natural desire to expend less energy to utter common words and combinations, and that dissimilation arises in part as a check on the excesses of assimilation which would otherwise reduce the language to a homogenous hum. Assimilation tends to deprive speech of its articulation, the differentiation by which it carries information. This is welcome if it saves energy only at the expense of unneeded redundancies; but when it rounds off corners that are needed to convey information, when it creates slurring that causes our auditors to ask us again and again what we are saying, then it threatens to prevent communication. It rubs up against the self-stabilization of the language. A complementary dissimilation is required to restore or preserve differentiation.

Excess of assimilation is hiss, white noise, loss of communication. Excess of dissimilation is difficult pronunciation, redundant information, and lost energy. Dissimilation aids communication but deters the effort; assimilation aids the effort but threatens communication. Clearly an excess of dissimilation is better than an excess of assimilation. But the requirements of economy, efficiency, fluidity, and speed prevent us from erring on that side. Assimilation tends to excess far more often than dissimilation, and is checked only by the failure of communication. If walking, as Schelling said, is constantly prevented falling, then speech is constantly prevented drone.

The delicate balance between assimilation and dissimilation can be struck in many different places, and is maintained by the constant activity of a language group. Current conventions of usage codify the balance in standard pronunciations. As pronunciation varies minutely from speaker to speaker, forms that depart from convention in noticeable ways will usually be criticized and returned to the norm. If they are allowed to have their effect, then by a kind of Darwinian harmony, they are preserving the balance between assimilation and dissimilation while shifting it to a new place. On this theory they simply would not be accepted if they entailed an intolerable loss of articulation or an intolerable increase of effort.



Language norms are the functional compromises between, for example, dissimilation and assimilation. They represent the vector of the contending strengths of articulation and disarticulation, of the risk of noise and the promise of speech, which are in constant tension. "Correct" pronunciation for a given group is far from a transcendental or ahistorical matter; it is a direct function of what it takes to understand one another, which is in turn a dynamic balance between forces of change and forces of self- stabilization.

Just as pronunciation is a result of the play and balance of assimilation and dissimilation, so the mutability of a language and its norms is a result of the balance of two reflexive processes. One is the self-reinforcing stability we called self- stabilization, and the other is the reciprocal causation and reflexive hierarchy we see in any norm vulnerable to change from the posterior usage it structures. Norms that reflect usage and that are legitimated by usage will tend to continue undisturbed. Norms that are liable to slow erosion from the usage they govern will tend to change continually. I have argued that language norms are both at once. The stability of a language and the rate of its current growth reflect the current equipoise of these opposing reflexive processes.

### **The Logic of Normative Change**

If language norms did not change, we would not agree that the /d/ in *thunder* is now correct. Moreover, we would not say that I am now speaking good English, but corrupt German, or more likely, some *Ursprache* like Indo-European —or what Germans call Indo-Germanic. But if norms change, without the kind of formal amendment and repeal possible in law, then the ebb and flow of historical usage has somehow got the better of the rules that were supposed to be guardians and judges of that usage. Somehow violation has become effective and authoritative. In recognizing this, we should not swing too far to the other extreme and deny that there are any norms at all, but only ebb and flow. The co- existence of norms and effective violations is made possible by the slow rate of change. Like the river bank, it is changed so slowly by the flow that it structures that it can be considered a norm for that flow; but the flow is continually eating away at that norm just the same.

We are really talking about reciprocal causation. Norms constrain usage, and usage alters norms. The rates at which each member of this rotating pair has its effect on the other, however, are very different. Norms constrain usage every day; usage alters norms only over many years. This is why the riverbed is a good analogy; the bed constrains the water's path at every moment; the water

alters the shape of the bed only over many years. While both effects are continuous, one shows up immediately and the other only gradually.

The logic can be made very simple for modeling purposes. We need only two variables, say  $x$  and  $y$ . We let  $x$  be a function of  $y$  from moment to moment, and  $y$  be a function of the history of the values of  $x$  over an arbitrarily long period. It is easy to write a computer program that simulates this reciprocal influence (I have done so). Even though the two values are continually somersaulting, the slower-changing variable is stable enough to give the faster-changing variable a coherent, orderly history. We build our houses on rock, but rock erodes; as long as it erodes more slowly than we live, we can build civilizations on it.

In linguistic change, the facts of the long-term are clearer than the short-term. Over the long-term we recognize that changes occur; we even recognize what they are. The difficult part is to explain the fine-grain process of these changes in day to day practices. My thesis is that there is a range of acceptable usage that will not provoke correction or criticism. Usage outside that range is resisted by appeal to the fact of convergence, which thereby functions as a norm. Some usage that is in fact diverging from the norm, but in minute ways, may be accepted by virtue of its indiscernibility. Over the long-term these minute changes add up to discernible shifts. Departures that are noticed are either accepted because they have a countervailing justification in phonetic convenience, play, utility, or prestige, or they are simply not accepted. Some of the phonetic changes that arise from natural needs of the mouth are minute and accepted because they are indiscernible; some are noticeable and accepted because they have a countervailing justification. The same pursuit of phonetic convenience leads to mispronunciations, tongue twisters, and slips of the tongue that are not accepted, even if they are often heard.

Usage falls within the general boundaries of the acceptable millions of times a day. That shows the effectiveness of the convergence operating as a norm, of the constitutive a posteriori structure of expectations. But millions of times a day in microscopic ways usage pushes at the conventions, and is either unavailing, like a prod to a gyroscope that returns to its course after a wobble, or it avails in such small ways that we won't notice for many years to come.

If this is so, then to abstract from the social life of norms, and to analyze their relations under a formal model, using an irreflexive hierarchy, or to deny that violations can change the norms of language, will not merely falsify the phenomenon by omission and simplification (which we expect of all

abstractions), but will falsify it by mistaking the reflexive logic of change for an irreflexive logic. The very logic of change and character of language norms will have been misconceived.

In language *purism*, for example, norms of grammar, diction, spelling, and punctuation are regarded as firm. Violations are to be censured and resisted, not accepted. Descriptive lexicographers and etymologists, however, become scientific (by the standards of their disciplines) precisely by overcoming this purism. By recording language as it is actually used, they will "codify" its misuse and abuse indifferently. Hence we encounter the conflicts, so difficult to adjudicate, between the purists who claim to preserve linguistic norms for the desirable ends of clarity, precision, and community, and the descriptive or historical linguists who claim to make the study of language scientific.

In addition to showing the inapplicability of irreflexive logics to language considered diachronically, I hope that this model of reflexive change will overcome the sterile opposition of purism and descriptivism in linguistics. The purist takes language norms synchronically, as if they had no history and will suffer no change, and undervalues their diachronic life. The descriptivist takes language diachronically, and underestimates (or ignores for disciplinary reasons) the normative force of norms synchronically considered. What is difficult to conceive is how norms that can be amended by their own violations are still normative, or how to preserve the normative character of language structures synchronically while recognizing their continual change diachronically.

I follow the purist in recognizing the normative force of linguistic norms synchronically, but follow the descriptivist in subjecting even these normative phenomena to diachronic analysis. Historical practices that are sufficiently widespread and longlasting become normative for a community, and thus constitutive both for practice (how we speak) and for theory (how we think we ought to speak). But while they can stabilize themselves by virtue of their constitutive function, they are slowly eroded by contrary practices (violations) that, with sufficient time and acceptance, become new norms.

The purist has thought, as it were, that norms are *a priori* constraints on language immune to the effects of experience. The descriptivist emphasizes their *a posteriori* character. The descriptivist is right about their historical conditioning, but the purist is right about their normative character. What we need is a logic of norms that are *constitutive a posteriori*.

This needed logic must be a reflexive one in which the authority of norms is vulnerable to amendment not only from logically prior norms, but from logically posterior practices.

The circularity of this "authority" to change norms is a fact of normative life in ethics, law, and language.

Finally, it may be well to summarize three reflexivities discerned in this analysis, namely, (1) the logic by which norms arise from facts and facts from norms, (2) the self-reinforcement of stability, and (3) the reflexive erosion of stability.

The first is the self-validation of usage, at least usage that is widespread and longstanding. It does not remain a mere fact of history but becomes a norm by which we decide what is correct and acceptable. This leads directly to the second, self-stabilization. Usage not only becomes a norm, but by doing so reinforces itself at both the descriptive and normative levels. Because the fact of convergence has become a norm of acceptability, speakers have come to believe that the convergent usage *ought* to prevail; because they believe this, the convergent usage is taught and used as a standard, which causes it to prevail. This leads in turn to the third. If usage can create a norm, it can alter a norm. But usage that alters a norm is not in conformity with the norm it alters. Violations amend. The logical priority we ascribe to norms over the cases they judge or constitute is here subject to an anomalous loop. The logically posterior can affect, even become, the logically prior. The relation between norm and case in language is a reflexive hierarchy; the norms are constitutive *a posteriori*. By traditional —irreflexive, formal— standards this is absurd; I assert, however, that it is merely preposterous.

\*

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### **Bibliography**

1. Linguistics and Etymology (works consulted)
2. Philosophy (works cited)

## 1. Linguistics and Etymology

Bammesberger, Alfred. *English Etymology*. Carl Winter, Universitätsverlag, 1984.

Barber, Charles. *Linguistic Change in Present-Day English*. University of Alabama Press, 1964.

Dwight Bolinger. *Aspects of Language*. Harcourt, Brace & World, Inc., 1968.

Buck, Carl Darling. *Comparative Greek and Latin Grammar*. University of Chicago Press, 1933.

Buck, Carl Darling. *A Dictionary of Selected Synonyms in the Principal Indo-European Languages: A Contribution to the History of Ideas*. University of Chicago Press, 1949.

Ekwall, Eilert. *A History of Modern English Sounds and Morphology*. Trans. Alan Ward. Basil Blackwell, 1975 (Original 1914, 1965).

Greenough, James Bradstreet, and George Lyman Kittredge. *Words and Their Ways in English Speech*. Beacon Press, 1901.

Klein, Ernst. *A Comprehensive Etymological Dictionary of the English Language*. 2 vols., Elsevier, 1966; reprinted unabridged in 1 vol., 1971.

Kluge, Friedrich. *Etymologisches Wörterbuch der deutschen Sprache*. 21st ed., Walter de Gruyter, 1975.

Lehmann, Winfred P. *Historical Linguistics: An Introduction*. Holt, Rinehart, and Winston, 1962.

Malmberg, Bertil. *Phonetics*. Dover Publications, 1963.

*Oxford Dictionary of English Etymology*, ed. C.T. Onions. Oxford University Press, 1966. Corrected ed., 1976.

*Oxford English Dictionary*, ed. James Murray. Oxford University Press, compact edition, 2 vols., 1971. Originally published in 13 volumes, 1882-1928.

Partridge, Eric. *Origins: A Short Etymological Dictionary of Modern English*. Greenwich House, 1983.

Pei, Mario. *Glossary of Linguistic Terminology*. Anchor Books, 1966.

Sapir, Edward. *Language: An Introduction to the Study of Speech*. Harcourt Brace Jovanovich, 1921, 1949.

Schlauch, Margaret. *The Gift of Language*. Dover Publications, 1955.

Shipley, Joseph. *Dictionary of Word Origins*. Littlefield, Adams and Co., 1967 (original 1945).

Shipley, Joseph. *The Origins of English Words: A Discursive Dictionary of Indo-European Roots*. The Johns Hopkins University Press, 1984.

Skeat, Walter W., Rev. *A Concise Etymological Dictionary of the English Language*. Perigee Books, 1980 (Original 1882).

Skeat, Walter W., Rev. *An Etymological Dictionary of the English Language*. Oxford University Press, 1879-82; 4th ed., revised and enlarged, 1956.

Sturtevant, E.H. *Linguistic Change: An Introduction to the Historical Study of Language*. University of Chicago Press, 1917.

Weekley, Ernest. *An Etymological Dictionary of Modern English*. Dover Publications, 2 vols., 1967 (original 1921).

## **2. Philosophy**

Albert, Hans. *Treatise on Critical Reason*. Trans. Mary Varney Rorty, Princeton University Press, 1985 (original 1967, 1980).

Burke, Kenneth. *A Grammar of Motives*. University of California Press, 1945.

Cohen, Morris Raphael. *Reason and Nature*. Harcourt Brace and Co., 1931.

Dingler, Hugo. *Philosophie der Logik und Arithmetik*. Munich, 1931.

Dworkin, Ronald. *Taking Rights Seriously*. Harvard University Press, 1977.

Feyerabend, Paul. *Against Method: Outline of an Anarchistic Theory of Knowledge*. NLB, 1975.

Frye, Northrop. *The Great Code: The Bible and Literature*. Harcourt Brace Jovanovich, 1982.

Habermas, Jürgen. *Knowledge and Human Interests*. Trans. Jeremy

Shapiro, Beacon Press, 1971 (original 1968).

Habermas, Jürgen. *Theory and Practice*. Trans. John Viertel, Beacon Press, 1973 (original 1971).

Kant, Immanuel. *Critique of Pure Reason*. Trans. Norman Kemp Smith, Macmillan, 1968 (original 1781, 1878).

Kuhn, Thomas. *The Structure of Scientific Revolutions*. Second edition, University of Chicago Press, 1970.

Mannheim, Karl. *Ideology and Utopia*. Trans. Louis Wirth and Edward Shils, Harcourt Brace Jovanovich, 1936 (original 1929).

Mill, John Stuart. *On Liberty*. Hackett Pub. Co., 1978 (original 1859).

Peirce, Charles Sanders, "The Fixation of Belief," in e.g. Thomas Vincent (ed.), *[Peirce's] Essays in the Philosophy of Science*, 1957 (essay, original 1871).

Pepper, Stephen. *World Hypotheses: A Study in Evidence*. University of California Press, 1948.

Radnitzky, Gerard, "In Defense of Self-Applicable Critical Rationalism," in Gerard Radnitzky and W.W. Bartley III (eds.), *Evolutionary Epistemology, Theory of Rationality, and the Sociology of Knowledge*, Open Court, 1987.

Suber, Peter, "[Logical Rudeness](#)," in Steven J. Bartlett and Peter Suber (eds.), *Self-Reference: Reflections on Reflexivity*, Martinus Nijhoff, 1987.

Wittgenstein, Ludwig. *On Certainty*. Ed. G.E.M. Anscombe and G.H. von Wright, Basil Blackwell, 1969.

## Notes

1. These examples, and those to come, are from Bammesberger, Barber, Bolinger, Buck (1933), Ekwall, Greenough and Kittredge, Lehmann, Malmberg, Pei, Schlauch, and Sturtevant (full citations in the bibliography below) —or they are my own. Many are standard examples used in more than one of these works. Those with dates have been verified by the Oxford English



Dictionary. Most have also been verified by Partridge and one or two other of the etymological dictionaries listed in the bibliography. [\[Resume\]](#)

2. This is not an absurd example, even though in *runner* the epenthetic /d/ would separate a word and its suffix while in the antecedents of English thunder — *thonir, thunure, thonner, thonere, thonour* — it apparently intruded upon a single morpheme. For the /d/ has also appeared in *remainder, remainer*, where it also separates a word from its suffix. The explanation of the new /d/ is phonetic, not morphological.

While the English *thunder* comes from Germanic antecedents without the /d/, the OED speculates that some Germanic cognates, e.g. Dutch *donder*, Danish *torden*, and Swedish *tördon*, are apparently contractions of the phrase *Thor's din*, which not only gives them the /d/ *ab initio*, but makes them words of two morphemes. The OED's explanation of the /d/ from *din* is supported by Buck (1949) at 58, using *duna*, 'a crash', but not by Skeat (1879), Partridge, Klein, Weekley, Shipley (1967), ODEE, or Kluge. [\[Resume\]](#)

3. Wittgenstein, *On Certainty*, ed. G.E.M. Anscombe and G.H. von Wright, Basil Blackwell, 1969, Sections 98, 167, 309, 319, 321, 401, 494; cf. 124, 125, 250. [\[Resume\]](#)

4. Ronald Dworkin, *Taking Rights Seriously*, Harvard University Press, 1977, p. 53. [\[Resume\]](#)

5. Immanuel Kant, *Critique of Pure Reason*, trans. Norman Kemp Smith, Macmillan, 1968 (original 1781, 1788). The house example is used at B.2. This type of knowledge is called "comparatively" *a priori* (*komparative a priori*) at B.273 and B.279. Another type of qualified *a priori* knowledge is described at B.876. [\[Resume\]](#)

6. Gerard Radnitzky, "In Defense of Self-Applicable Critical Rationalism," in Gerard Radnitzky and W.W. Bartley III (eds.), *Evolutionary Epistemology, Theory of Rationality, and the Sociology of Knowledge*, Open Court, 1987, at p. 298; Kenneth Burke, *A Grammar of Motives*, University of California Press, 1945, pp. 59ff; Thomas Kuhn, *The Structure of Scientific Revolutions*, second edition, University of Chicago Press, 1970; Stephen Pepper, *World Hypotheses: A Study in Evidence*, University of California Press, 1948. This sense of "myth" is used e.g. in Northrop Frye, *The Great Code: The Bible and Literature*, Harcourt Brace Jovanovich, 1982, at pp. 37, 50-51, and in Paul Feyerabend, *Against Method: Outline of an Anarchistic Theory of Knowledge*, NLB, 1975, pp. 44-45, 68. [\[Resume\]](#)



7. For both Kant and Hume, the constitutive must be *a priori*; they differed essentially on whether there was anything that was constitutive *a priori*. Again, for Kant the *a posteriori* must passively be constituted. Hume denied that anything was constituted in the strong sense used by Kant; but his theory that habit and custom constrain how we judge appearances comes very close to the present notion of a constitutive *a posteriori*, and must count as one of its earliest recognitions. [\[Resume\]](#)

8. It should be clear from the description of self-stabilization that it is the result of how speakers act. The "self-" in "self-stabilization" should not suggest that language is the agent of its own stabilization, or that language must be reified to accept this account of its stability. [\[Resume\]](#)

9. See Wittgenstein, *On Certainty*, op. cit., Sections 95, 97:

The propositions describing [my] world-picture might be part of a kind of mythology. And their role is like that of rules of a game; and the game can be learned purely practically, without learning any explicit rules....The mythology may change back into a state of flux, the river-bed of my thoughts may shift. But I distinguish between the movement of the waters on the river-bed and the shift of the bed itself; though there is not a sharp division of the one from the other.

See also Edward Sapir, *Language*, Harcourt Brace & World, 1921, at p. 148:

[T]he sense of almost unlimited freedom which each individual feels in the use of his language is held in leash by a tacitly directing norm. One individual plays on the norm in a way peculiar to himself, the next individual is nearer the dead average in that particular respect in which the first speaker most characteristically departs from it but in turn diverges from the average in a way peculiar to himself, and so on. What keeps the individual's variations from rising to dialectic importance is not merely the fact that they are in any event of small moment...it is chiefly that they are silently 'corrected' or canceled by the consensus of usage. [\[Resume\]](#)

10. These formulations are certainly not synonymous; but each shows how some prior epistemology has formulated the self-validating character of constitutive *a posteriori* norms. Charles Sanders Peirce, "The Fixation of Belief," in e.g. Thomas Vincent (ed.), *[Peirce's] Essays in the Philosophy of Science*, 1957 (essay, original 1871), at pp. 14-16; Peter Suber, "[Logical Rudeness](#)," in Steven J. Bartlett and Peter Suber (eds.), *Self-Reference: Reflections on Reflexivity*, Martinus Nijhoff, 1987, pp. 41-67; Hans

Albert, *Treatise on Critical Reason*, trans. Mary Varney Rorty, Princeton University Press, 1985 (original 1967, 1980) at pp. 40, 45-47; Paul Feyerabend, *op. cit.* at pp. 41-43, 156; Kuhn, *op. cit. passim*; Jürgen Habermas, *Knowledge and Human Interests*, trans. Jeremy Shapiro, Beacon Press, 1971, p. 194f (partially retracted in his *Theory and Practice*, trans. John Viertel, Beacon Press, 1973, at pp. 14-15, 19-22). [\[Resume\]](#)

**11.** Cohen, *Reason and Nature*, Harcourt Brace and Co., 1931, at pp. 140-46. Cohen argues that it is inaccurate to interpret these peculiar *a priori* judgments as conventional, although for my purposes here they serve very well to illuminate the normative character of conventions. Hugo Dingler comes to virtually the same conclusion in his *Philosophie der Logik und Arithmetik*, Munich, 1931, at pp. 21-32 (I owe this insight Hans Albert's discussion of Dingler in Albert, *op. cit.* at 19-43).

My description of Cohen's position consciously echoes John Stuart Mill, *On Liberty*, Hackett Pub. Co., 1978 (original 1859) at p. 18: "There is the greatest difference between presuming an opinion to be true because, with every opportunity for contesting it, it has not been refuted, and assuming its truth for the purpose of not permitting its refutation." [\[Resume\]](#)

**12.** Karl Mannheim generally sticks to a clinical language in describing the rise of self-insulating ideologies, but once describes it pungently as "making a virtue out of a defense mechanism." Karl Mannheim, *Ideology and Utopia*, trans. Louis Wirth and Edward Shils, Harcourt Brace Jovanovich, 1936 (original 1929), at p. 101. [\[Resume\]](#)

**13.** In [Chapter 21](#) of *The Paradox of Self-Amendment*, *forthcoming*, I argue more strongly that law is a completely reflexive hierarchy. A completely reflexive hierarchy is one in which any level may affect any other. [\[Resume\]](#)

**14.** *Poetic* is subject to consonantization while *poetry* is not because *poetry* stresses the /o/ syllable, preventing its loss or change. However, even *poetry* is liable to dissimilate into *powetry*. [\[Resume\]](#)

**15.** The semantic history of *glamour* is even more interesting than this phonetic history. Because learning and erudition acquired an aura of the mysterious for the uninitiated, grammar came to be associated with magic. The Middle English variant *grammarye* also meant magic. The allure of magic came to be the primary sense of the Scottish variant, *glamour*. [\[Resume\]](#)

**16.** Buck (1933) at 46-47 speculates that *February* loses an /r/ while *library* does not because *February* is under the additional influence of "congeneric analogy" with *January*. [\[Resume\]](#)

**17.** The common origin of *tax* and *task* reveals a semantic connection between the two words. We still say that to tax one for one's failures is to take one to task. [\[Resume\]](#)

**18.** This latter principle applies to the consonantal change of voicing, aspiration, and some cases of epenthesis (e.g. the added /b/ in *gamble*) as well. [\[Resume\]](#)

**19.** Buck (1933) at pp. 40-41. [\[Resume\]](#)

**20.** Edward Sapir, *op. cit.* offers a psychological theory at pp. 55, 170, 178, 183, 186, that for our purposes combines Buck's second and third theories. [\[Resume\]](#)

**21.** Buck (1933) at 42. Note that this claim is not supported by Kluge, or even by Buck (1949) at 103-04. [\[Resume\]](#)

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